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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/520,923

01/12/2005

Kazuya Kamitake

50395-305

4825

20277 7590 04/11/2007  
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EXAMINER

WILLIAMS, ALEXANDER O

ART UNIT

PAPER NUMBER

2826

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

04/11/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/520,923	KAMITAKE ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Alexander O. Williams	2826	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 January 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 12-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 12-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

Art Unit: 2826

Serial Number: 10/520923 Attorney's Docket #: 50395-305

Filing Date: 1/12/2005; claimed foreign priority to 7/17/2002 & 4/2/2003

Applicant: Kamitake et al.

Examiner: Alexander Williams

This application is a 371 of PCT/JP03/08624 filed 7/7/2003.

Applicant's Pre-Amendment filed 1/12/2005 has been acknowledged.

Claims 1-11 have been cancelled.

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Claims 12 to 32 are rejected under 35 U.S.C. § 102(b) as being anticipated by Mahulikar et al. (U.S. Patent # 5,608,267).

12. Mahulikar et al. (figures 1 to 5) specifically figure 2 show a member for a semiconductor device **12** comprising a base member **26'** made of an alloy or composite mainly composed of Cu and W and/or Mo, wherein a coating layer **42** made of a hard carbon film is provided on at least a surface of the base member on which another member for the semiconductor device is bonded with a resin.

13. The member for a semiconductor device according to claim 12, Mahulikar et al. show wherein the alloy or composite mainly composed of Cu and W and/or Mo contains Cu of 5 to 40% by weight.

Art Unit: 2826

14. Mahulikar et al. (figures 1 to 5) specifically figure 2 show a member for a semiconductor device **12** comprising a base member **26'** made of an alloy or composite mainly composed of Al--SiC, wherein a coating layer **42** made of a hard carbon film is provided on at least a surface of the base member on which another member for the semiconductor device is bonded with a resin.

15. The member for a semiconductor device according to claim 14, Mahulikar et al. show wherein the alloy or composite mainly composed of Al--SiC contains SiC of 10 to 70% by weight.

16. Mahulikar et al. (figures 1 to 5) specifically figure 2 show a member for a semiconductor device **12** comprising a base member **26'** made of an alloy or composite mainly composed of Si--SiC, wherein a coating-layer **42** made of a hard carbon film is provided on at least a surface of the base member on which another member for the semiconductor device is bonded with a resin.

17. The member for a semiconductor device according to claim 16, Mahulikar et al. show wherein the alloy or composite mainly composed of Si--SiC contains Si of 10 to 35% by weight.

18. The member for a semiconductor device according to claim 12, wherein the coating layer has a thickness of 0.1 to 10 .mu.m.

Art Unit: 2826

19. The member for a semiconductor device according to claim 14, Mahulikar et al. show wherein the coating layer has a thickness of 0.1 to 10  $\mu\text{m}$ .

20. The member for a semiconductor device according to claim 16, Mahulikar et al. show wherein the coating layer has a thickness of 0.1 to 10  $\mu\text{m}$ .

21. The member for a semiconductor device according to claim 12, Mahulikar et al. show wherein the surface of the base member on which the coating layer is formed has a surface roughness of 0.1 to 20  $\mu\text{m}$  in  $R_{\text{max}}$ .

22. The member for a semiconductor device according to claim 14, Mahulikar et al. show wherein the surface of the base member on which the coating layer is formed has a surface roughness of 0.1 to 20  $\mu\text{m}$  in  $R_{\text{max}}$ .

23. The member for a semiconductor device according to claim 16, Mahulikar et al. show wherein the surface of the base member on which the coating layer is formed has a surface roughness of 0.1 to 20  $\mu\text{m}$  in  $R_{\text{max}}$ .

24. The member for a semiconductor device according to claim 12, Mahulikar et al. show wherein pores in the surface of the base member on which the coating layer is formed have a depth of 100  $\mu\text{m}$  or less.

25. The member for a semiconductor device according to claim 14, Mahulikar et al. show wherein pores in the surface of the

Art Unit: 2826

base member on which the coating layer is formed have a depth of 100  $\mu\text{m}$  or less.

26. The member for a semiconductor device according to claim 16, Mahulikar et al. show wherein pores in the surface of the base member on which the coating layer is formed have a depth of 100  $\mu\text{m}$  or less.

27. The member for a semiconductor device according to claim 12, Mahulikar et al. show wherein a plating layer of Ni is provided between the coating layer and the surface of the base member on which the coating layer is formed.

28. The member for a semiconductor device according to claim 14, Mahulikar et al. show wherein a plating layer of Ni is provided between the coating layer and the surface of the base member on which the coating layer is formed.

29. The member for a semiconductor device according to claim 16, Mahulikar et al. show wherein a plating layer of Ni is provided between the coating layer and the surface of the base member on which the coating layer is formed.

30. Mahulikar et al. show show a semiconductor device employing the member for a semiconductor device according to claim 12.

31. Mahulikar et al. show a semiconductor device employing the member for a semiconductor device according to claim 14.

Art Unit: 2826

32. Mahulikar et al. show a semiconductor device employing the member for a semiconductor device according to claim 16.

The following references are cited as of interest to this application, but not applied at this time.

Field of Search	Date
U.S. Class and subclass: 257/704,707,710,778,734,737,738,e23,111,e23,181,e23.1 91	4/2/07
Other Documentation: foreign patents and literature in 257/704,707,710,778,734,737,738,e23,111,e23,181,e23.1 91	4/2/07
Electronic data base(s): U.S. Patents EAST	4/2/07

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander O. Williams whose telephone number is (571) 272 1924. The examiner can normally be reached on M-F 6:30AM-7:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sue Purvis can be reached on (571) 272 1236. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Art Unit: 2826

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Alexander O Williams  
Primary Examiner  
Art Unit 2826

AOW  
4/2/07